



UPU | UNIVERSAL
POSTAL
UNION

Call for tenders

Procurement of RFID transponders

15 October 2024

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1 Introduction

1.1 Profile of the UPU

The Universal Postal Union (UPU) was founded in 1874 in Berne, Switzerland, with the main goals of establishing a single postal territory for the reciprocal exchange of letter-post items and adopting common principles for the international postal service in a non-discriminatory manner. Currently comprising 192 member countries, the UPU became a specialized agency of the United Nations in 1948.

The main mission of the UPU is to stimulate the lasting development of efficient and accessible universal postal services of quality, in order to facilitate communication between the inhabitants of the world. It does this by guaranteeing the free circulation of items over a single postal territory composed of interconnected networks, encouraging the adoption of fair common standards and the use of technology, ensuring cooperation and interaction among stakeholders, promoting effective technical cooperation, and ensuring the satisfaction of customers' changing needs. The UPU is thus expected to play a major role in the continued revitalization of postal services.

Furthermore, the UPU facilitates the development of worldwide postal services by providing an information and communication technology framework that allows the designated operators¹ of UPU member countries to concentrate on the delivery of postal services to their customers. In this context, the UPU provides a global network with value-added services, as well as computerized applications for the management of international mail and international postal money orders.

2 Terms and conditions

Unless otherwise indicated in this call for tenders, the term "Bidder" shall refer to any person, company or legal entity submitting a proposal in response to this call for tenders. The term "Vendor" shall refer to any selected bidder.

2.1 Confidentiality

Bidders shall treat in strict confidence all information contained in this call for tenders and its attached documents that is not already publicly known or generally accessible, particularly any documentation marked as confidential and distributed by the UPU to Bidders as additional confidential tender documentation. Bidders shall prevent the disclosure or distribution of all such information to third parties and other entities and persons not expressly authorized herein. In case of doubt, these confidentiality provisions shall nevertheless be observed. All Bidders are obliged to observe these confidentiality provisions before, during and after the tender process. These provisions shall not affect the legal obligations of the UPU and Bidders to disclose information.

Bidders shall not use such information for any purposes other than those associated with this call for tenders. The call for tenders and all attached documents may be distributed or made available only to persons directly involved in the tender process on behalf of Bidders. If external agents or subcontractors are involved in the preparation of the tender documents, this must be indicated and their names provided in the participation notification (see section 2.14).

Bidders shall assume full responsibility for the compliance of their agents, consultants, employees and subcontractors, as well as any third parties involved on their behalf in this tender process, with these rules of confidentiality, and shall be liable for any damages resulting from misconduct or unauthorized disclosure.

If a Bidder violates the confidentiality provisions contained herein, it shall be liable to pay a penalty to the UPU unless it can prove that no fault is attributable to it. This penalty shall not exceed 50,000 CHF per infringement. Payment of any such penalties shall not release Bidders from their obligation to observe these confidentiality requirements.

¹ In accordance with article 2.1.6 of the UPU Constitution, a designated operator is any governmental or non-governmental entity officially designated by the member country to operate postal services and to fulfil the related obligations arising out of the Acts of the Union on its territory.

Bidders wishing to submit a proposal in response to this call for tenders must contact the person(s) specified in section 2.15 below and may, if necessary, request additional information from the UPU in relation to this call for tenders.

Without prejudice to the confidentiality provisions set out above, Bidders agree that the receipt of any such information may be subject to the prior signature of a non-disclosure agreement between the Bidder and the UPU, under conditions to be determined and communicated by the latter.

2.2 Legal status of the Vendor

The Vendor shall be regarded as having, in law, the legal status of independent contractor. The Vendor and its agents, consultants, employees and subcontractors (as authorized by the UPU) shall in no way be regarded as employees of the UPU. Such agents, consultants, employees and subcontractors of the Vendor shall not be entitled to any employment benefits from the UPU. The Vendor alone shall be responsible for due payment of all compensation owed to such agents, consultants, employees and subcontractors, including payment of any employment taxes, benefits, compensation and insurance. The Vendor shall represent and warrant that it will comply with all laws, rules and regulations required by the relevant authorities, including the appropriate withholding, reporting and payment of all necessary taxes.

The Vendor shall be liable for all work performed, including any acts or omissions, by its agents, consultants, employees and subcontractors.

2.3 Scope of the call for tenders

This call for tenders concerns the provision of passive radio frequency identification (RFID) transponders to the UPU for the purpose of monitoring and tracking postal items, receptacles and assets in real time, for a period of four years.

The RFID transponders will be distributed to various destinations around the globe. The Vendor will be expected to manage stock and coordinate the transportation of the goods to their destinations.

2.4 Background

Current situation

The UPU is tasked with improving the global performance of the international letter-post sector. According to UPU estimates, the global letter-post market stood at 350 billion domestic and international letter-post items and over 6 billion international parcels in 2012.

It was agreed that the desired improvement in global performance would be achieved through a system associating letter-post quality of service and the payments made between designated operators. The UPU therefore devised the Global Monitoring System (GMS), a neutral and independent measurement system, which was first implemented in 2009 and is now actively used in more than 110 member countries.

Under this system, external panellists (independent of designated operators) exchange test letters containing a passive UHF RFID transponder that is read by RFID equipment installed at operational facilities where postal traffic is received and processed. This is a well-established process used by various member countries, serving to generate the majority of the information required to determine quality of service.

In order to respond to new market and customer needs, the UPU now aims to extend this established mail measurement technique to encompass the real-time tracking and monitoring of all postal items, including receptacles, through the use of RFID technology.

Project background

International postal volumes are increasing owing to the e-commerce market. Public postal services are competing with private couriers that offer end-to-end traceability and transportation managed with their own fleets. However, designated operators can rely on international frameworks that seek to harmonize quality standards and procedures, thus ensuring that mail distribution procedures are homogenous throughout the postal pipeline.

In this context, leg 2 transportation (i.e. the time taken to transport an item between two designated operators) plays a crucial role in ensuring a reliable and competitive international public postal service. Currently, several measurements are used to provide indicators in this regard, based on electronic data interchange (EDI) messages exchanged between the parties involved in leg 2 transportation, at item, dispatch and consignment level. Although these measurements are well established, they are subject to limitations, as receptacles are scanned manually before or after their actual handover between the parties involved in leg 2 transportation. RFID technology offers the capacity to automate the capture of this information and monitor the service performance provided by each of the parties involved in transportation.

In parallel, new regulations concerning customs and security require all postal items containing goods to be identified. The aim is to improve the accuracy of goods inspections and to prevent the acceptance of items that are not compliant with security regulations. To this end, designated operators will be required to identify and scan each postal item downstream. Within this framework, passive RFID technology can support the tracking of high volumes of items through the automatic collection of data from postal items.

2.5 Objectives

The UPU seeks a contractor for the provision of passive RFID transponders to designated operators to enable them to identify postal items, receptacles and assets, and thus improve the monitoring and traceability of their operations. The types of RFID transponder to be used will depend on the needs of each designated operator. Details of the types of RFID transponder required, and the associated applications and objectives, are provided in section 4, along with technical product specifications.

2.6 Use of subcontractors

The Vendor shall not assign, sublicense, subcontract, pledge or otherwise transfer or dispose of its tender, or any of the rights and obligations contained therein or in an associated contract with the UPU, without the prior written consent of the UPU.

The approval by the UPU of the engagement of any subcontractor shall not relieve the Vendor of any of its obligations or responsibilities concerning the work performed by such subcontractors.

2.7 Use of the emblem, name and initials of the UPU

Bidders shall not advertise or otherwise make public the fact that they intend to provide, are providing or have provided services to the UPU, or use the emblem, name or initials of the UPU in connection with their business for purposes of commercial advantage or goodwill, without prior and explicit permission from the UPU. Bidders shall take all reasonable measures to ensure compliance with this provision by their agents, consultants, employees and subcontractors.

2.8 Collusive bidding, anti-competitive practices and any other similar conduct

Without prejudice to the provisions in sections 3 and 4 below, Bidders (including their agents, consultants, employees and subcontractors) shall not engage in any collusive bidding, anti-competitive practices or any other similar conduct in relation to:

- the preparation and submission of tenders;
- the clarification of tenders;
- the conduct and content of any negotiations, including final contract negotiations.

For the purposes of this call for tenders, collusive bidding, anti-competitive practices and any other similar conduct may include the disclosure to, or exchange or clarification with, any other Bidder of information (in any form), whether or not such information is confidential to the UPU or to any other Bidder, in order to alter the results of the call for tenders in such a way that would lead to an outcome other than that which would have been obtained through a competitive process. In addition to any other remedies available to it, the UPU may, at its sole discretion, immediately reject any tender submitted by a Bidder that, in the UPU's opinion, has engaged in any collusive bidding, anti-competitive practices or any other similar conduct with any other Bidder in relation to the preparation or submission of tenders, whether with respect to this call for tenders or other procurement processes conducted by the UPU.

2.9 *Intellectual property*

This call for tenders and all its attached documents, including any content, forms, statements, concepts, projects and procedures explicitly or implicitly forming part of the call for tenders, constitute the exclusive intellectual property of the UPU. This call for tenders is communicated to the various Bidders with the sole purpose of assisting them in the preparation of their respective tenders. Any hard copies of this call for tenders shall be destroyed or returned to the UPU by unsuccessful Bidders at the request of the UPU.

2.10 *Privileges and immunities*

Nothing in or relating to this call for tenders, the activities described herein or any potential agreements related thereto shall be deemed as a waiver, expressed or implied, of any of the privileges, immunities and facilities that the UPU enjoys as a specialized agency of the United Nations system, pursuant to the Swiss Host State Act and the Agreement on Privileges and Immunities of the United Nations (on Swiss territory), the Convention on the Privileges and Immunities of the Specialized Agencies (outside Switzerland), and any other conventions and laws recognizing and/or granting such privileges, immunities and facilities to the UPU and its officials (such as the International Organizations Immunities Act in the case of the United States of America).

Accordingly, the Vendor shall expressly acknowledge and agree that the property and assets of the UPU, including any archives, data, documents and funds belonging to the UPU or held by it (including, without limitation, the data/hosting environments and servers pertaining to or associated with the provision of the services, as well as any data or documents in any form belonging to or held by the UPU on behalf of UPU member countries and their designated operators), are inviolable and shall be immune from search, requisition, confiscation, expropriation and any other form of interference, whether through executive, administrative, judicial or legislative action. The Vendor shall immediately contact the UPU in the event of any attempt to violate or any violation of the UPU's privileges and immunities, and shall take all reasonable measures to prevent such violations.

In the light of the UPU's status as a specialized agency of the United Nations (and without prejudice to the observance, by the UPU, of any sanctions established by the United Nations Security Council), Bidders shall expressly certify their legal and operational willingness and ability to provide the services on a non-discriminatory basis for the benefit of all eligible entities established and/or situated in the territory of any UPU member country, irrespective of the existence of diplomatic relations between a Bidder's country of incorporation and/or operation and any UPU member country (including its designated operators).

2.11 *Tax exemption*

Pursuant to article III, section 9, of the Convention on the Privileges and Immunities of the Specialized Agencies, the UPU is exempt from all direct taxes and from customs restrictions, duties and charges of a similar nature in respect of articles imported or exported for its official use.

Furthermore, as an intergovernmental organization and a specialized agency of the United Nations, the UPU is exempt from value-added tax (VAT) in Switzerland (OLTVA, article 22; *Instructions 2001 sur la TVA*, articles 574, 816 and others), as well as in other countries. Therefore, all prices shall be indicated in "net" form, without VAT or similar taxes.

2.12 *Language*

Bidders must submit all tender documents entirely in English.

2.13 *Signature*

Tender documents shall be signed by a representative (or representatives) duly designated and authorized to act on the Bidder's behalf and with the authority to legally bind the Bidder and accept the terms and conditions of this call for tenders.

2.14 *Participation notification*

Upon receipt of this call for tenders, Bidders shall send confirmation of participation to the contact person(s) listed in section 2.15 by the deadline indicated in section 2.20.

2.15 Contact persons

Secretary of the Tenders and Procurements Committee
Universal Postal Union
International Bureau
Weltpoststrasse 4
3015 BERNE
SWITZERLAND

E-mail: caa@upu.int

2.16 Further inquiries and questions

Bidders must send any questions regarding the content of this call for tenders or any requests for clarification in writing to the contact person(s) listed in section 2.15 by 15 November 2024.

Answers to questions submitted by Bidders, as well as any additional information and updates relevant to this call for tenders, shall be published on the UPU website at www.upu.int/en/Universal-Postal-Union/Procurement.

2.17 Delivery of tenders and deadline

All tenders must be submitted to the UPU by e-mail only at RFP-2024-020@upu.int with “RFP-2024-020-DOP – Procurement of RFID transponders” as the subject line.

The deadline for the submission of tenders is **25 November 2024 at 16.00 CET**.

The UPU shall not take into consideration any tenders received after this date and time. Furthermore, it shall not accept any tenders sent to any e-mail address other than that specified above or sent by any other means.

There shall be no charge to the UPU for the preparation and submission of tender documents by Bidders.

2.18 Evaluation procedure

The objective of the UPU’s evaluation process is to ensure the selection of a qualified, reliable and experienced Vendor capable of providing the specialized services and fulfilling the objectives set out in this call for tenders.

The UPU shall conduct its evaluation procedure with a view to determining as objectively as possible the tender that best meets its specific requirements. All tenders submitted shall be subject to an in-depth assessment, at the UPU’s sole discretion, in order to enable the UPU to engage the most appropriate service provider. Due consideration will be given to Bidders’ specific backgrounds, qualifications and experience in relation to the required services.

The prescribed structure of tenders, as set out in section 3, is mandatory for all Bidders. The UPU shall not take into consideration any tenders that do not fulfil the mandatory criteria.

Tenders received by the UPU must address all aspects of this call for tenders, and Bidders should identify any aspects where they envisage modifications being necessary or consider elements to be missing.

Tenders shall be evaluated on the basis of the following criteria, in descending order of importance:

- Quality of the tender (according to the specifications herein);
- Knowledge and experience of the Bidder and its team and/or consultant(s), as applicable to the subject matter;
- Price.

The winning tender will be selected based on a non-exhaustive list of criteria as set out in section 4. Bidders should therefore consider how their tender corresponds with the criteria listed and clearly indicate this in their response document.

The deliberations of the UPU Tenders and Procurements Committee (TPC) are strictly confidential. The TPC shall submit a report on its evaluation of the tenders received to the Director General of the UPU International Bureau, together with its final recommendation, for his assessment and authorization.

The UPU is not bound to accept the lowest tender and reserves the right to accept all or part of a tender. In awarding the contract, account will be taken of both the overall costs of the work and of the nature and quality of the services to be provided. The UPU reserves the right to negotiate prices and terms and conditions of contract after receipt of tenders.

Bidders will be informed of the outcome of their tender as soon as possible after the UPU has made its final selection.

2.19 *Modification, suspension or cancellation of the call for tenders*

The UPU reserves the right, at its sole discretion and at any time before the conclusion of the tender process (i.e. at any time prior to the signature of the relevant contract with the Vendor), to modify, suspend or cancel all or part of this call for tenders.

2.20 *Tentative schedule*

Publication of call for tenders	15 October 2024
Deadline for submission of queries	15 November 2024
Deadline for provision of responses to queries	18 November 2024
Deadline for submission of tenders to the UPU	25 November 2024 at 16.00 CET
Estimated start of engagement	6 January 2025

3 **Tender structure – Response format**

All information provided by Bidders must be fully compliant with the terms and conditions set out in section 2 above, as well as the provisions of this section and the service requirements listed in section 4 below.

Moreover, the requirements stipulated in this call for tenders must be met in their entirety, according to the structure defined below and following the sequence and numbering provided in this section. The UPU shall evaluate all Bidder responses in accordance with the structure defined herein and shall have the right to reject any tenders that do not fulfil the requirements of this call for tenders.

For each of the requirements listed in this call for tenders, Bidders shall answer with one of the following statements:

- Covered;
- Covered with limitations (explaining relevant limitations);
- Not covered.

Where the answer is “covered” or “covered with limitations”, Bidders shall provide further details and/or examples of existing implementations of their solution in the field (existing use cases).

3.1 *Cover letter*

Bidders shall submit a cover letter including:

- A statement that the Bidder has read, understands and accepts all provisions of this call for tenders;
- The Bidder’s name, telephone number, postal address and e-mail address, and the name(s) of its representative(s);
- A statement that the Bidder’s tender documents are valid for a minimum period of 120 days.

The cover letter shall be signed by a representative (or representatives) duly designated and authorized to act on the Bidder's behalf and with the authority to legally bind the Bidder and accept the terms and conditions of this call for tenders, and shall also include a confirmation of such authorization by the Bidder.

3.2 *Executive summary*

Bidders shall provide an executive summary highlighting the most important aspects of their tender.

3.3 *Bidder information*

Bidders must provide the following information:

- Company structure, locations/subsidiaries;
- Financial data (turnover, profit, etc.);
- Number of employees;
- Partners and equity holders of the company;
- Company history;
- Market position and share in relevant markets;
- Customer reference list with descriptions of similar projects;
- Quality management certifications and statements;
- Company governance and sustainability executive report;
- Reference letters.

3.4 *Subcontractor information*

In the event that Bidders intend to engage a subcontractor for part or all of the services set out in this call for tenders, the following information must be provided with regard to the subcontractor(s):

- Company structure, locations/subsidiaries;
- Degree of involvement, with a list of services and/or products;
- Customer reference list with descriptions of similar projects;
- Company governance and sustainability executive report;
- Reference letters.

3.5 *Technical proposal*

Bidders shall submit a technical proposal addressing all of the requirements set out in section 4 (Service requirements). This proposal should include, as a minimum:

- A datasheet on each proposed transponder;
- An outline of the production and quality control process;
- Delivery lead times;
- Description of the managerial process;
- Expected response time to e-mails, purchase orders and any other queries that the UPU may have;
- Any additional information that Bidders wish to provide regarding the implementation and fulfilment of the requirements set out in this call for tenders.

3.6 Pricing structure

Bidders shall provide a detailed pricing structure for the goods and services proposed, including unit prices in USD based on defined threshold quantities for the following items:

<i>Product/service</i>	<i>Capacity to provide (Yes/No)</i>	<i>1–1,000</i>	<i>1,001–5,000</i>	<i>5,001–10,000</i>	<i>10,001–50,000</i>	<i>50,001–100,000</i>	<i>More than 100,000</i>
Single-use blank passive UHF RFID transponders (96 bits)							
Single-use blank passive UHF RFID transponders (160 bits)							
Single-use blank passive UHF RFID transponders (160 bits) in 130 x 90 labels							
Reusable passive UHF RFID transponders (96 bits)							
Printing and encoding of transponders							
Printing of test letters							
Optional products and/or services ²	NA						

Each threshold will define the unit price to be paid by the UPU when submitting the purchase order. For instance, if an order is placed for 500 units, the unit price for those 500 units will be that defined in the “1–1,000” column. The unit price for an order of 65,000 units will be that defined in the “50,001–100,000” column, and so on.

Bidders may offer more than one model for each category of transponder. If the price differs between models within the same category, Bidders may add additional rows to the table. Each row of the table shall correspond to the unit price for a model or group of models.

Bidders shall not be allowed to withdraw and resubmit their tender, for any reason whatsoever, after the tenders have been opened by the TPC.

Bidders shall not include VAT in any of their pricing information (see section 2.11 above). All pricing information shall be set out exclusively in United States dollars (USD).

Bidders shall confirm that the prices quoted in USD are fixed and that there shall be no additional cost to the UPU owing to exchange rate variation (if any) at the time of the contract.

² Bidders may specify any other optional products and/or services aimed at leveraging their tender.

3.7 Delivery and payment schedule

The target dates for provision of the services are as follows:

Start date: 6 January 2025

End date: 5 January 2029

The delivery and payment schedules should be proposed by Bidders in their pricing structures, and must be agreed with the UPU.

The services provided by the Vendor shall be invoiced in arrears on a monthly basis. The UPU will make payment within 30 business days of receipt of invoice, subject to its acceptance of the services provided and the Vendor's transmission to the UPU of any and all documentation clearly detailing the services to which the invoice pertains (in a format to be established by the UPU).

3.8 UPU General Terms and Conditions

/ Bidders shall include in their tender a statement of acceptance of the UPU General Terms and Conditions for the Provision of Goods and Services, attached hereto for reference.

The final terms of any contract arising from this call for tenders shall be defined by the UPU and accepted by the Vendor. Contract negotiations shall commence only after the final selection of a Vendor by the UPU.

4 Service requirements

4.1 Description of the services/products

The Vendor will be expected to provide the following services/products:

- Single-use blank passive UHF RFID transponders (96 bits/160 bits/160 bits embedded in 130 x 90 labels);
- Reusable passive UHF RFID transponders (96 bits);
- Printing and encoding services (transponders and test letters);
- Optional: any other products or services aimed at leveraging its tender.

4.1.1 Implementation of RFID transponders at postal facilities

To facilitate an understanding of the technical requirements of this call for tenders, the purpose of this section is to provide bidders with an overview of the various environments in which the passive RFID transponders will be implemented.

UHF RFID readers

UHF RFID readers are usually installed at postal facilities so as to ensure optimum detection of the entry and exit of passive RFID transponders. Depending on the postal facility, various scenarios may be implemented, as follows:

Type	Purpose	Maximum dimensions	Type of container
Small door	Inbound/outbound	1.5 m (W) x 2 m (H)	Trays/mailbags
Standard dock	Inbound/outbound	4 m (W) x 4 m (H)	Metal cages and/or pallets containing trays/mailbags
Airmail unit dock	Inbound	5 m (W) x 4 m (H)	Unit load devices containing trays/mailbags
Elevators	Inbound/outbound	4 m (W) x 4 m (H)	Metal cages and/or pallets containing trays/mailbags
Conveyor belt	NA	1.5 m (W)	Trays/mailbags

Although the RFID equipment is normally installed according to the scenarios described above, it may occasionally be installed at a “bottleneck” (such as a corridor) and/or in an open area to capture all RFID transponders from various operational processes.

Operational environments

The transponders will be used in offices of exchange around the world, operated by more than 50 different designated operators. Therefore, the operational environments in which they will be used will be highly diverse, differing from one office and/or country to the next.

Postal facilities around the world do not all follow the same layout. It should be assumed that layouts will differ and that mailbags and postal items will be moved through facilities in groups/piles, and that, consequently, transponders may overlap.

The channels used to move mail in and out of postal facilities also vary, with the most common being:

- Trolleys;
- Small trays;
- Conveyor belts, on which mailbags may be piled (i.e. not necessarily separated and ordered);
- Manual movement of mailbags through a gate to load a van or small truck;
- Pallets;
- Unit load devices (i.e. metal cages used to load mail on to aircraft).

Surface applications

Single-use transponders will be attached to card, paper or plastic surfaces.

Reusable transponders may be fixed permanently or using a system that enables them to be changed regularly. They may be attached to the following categories of asset:

- Pallets: made of wood or plastic;
- Mailbags: made of nylon or textiles;
- Trolleys and cages: metal usually is the primary material, but there may also be plastic components;
- Trays: made of plastic or card.

4.1.2 Types and quantities of transponders and services required

Various types of RFID transponder will be required for different applications and objectives, as set out in the table below:

<i>Transponder type</i>	<i>Application</i>	<i>Objective</i>	<i>Quantity</i>
Single-use blank passive UHF RFID transponders (96 or 160 bits)	Identification of postal items, receptacle contents or test items	To be encoded by the Vendor using serial numbers created by the UPU, or on site with postal receptacles and item IDs (S9 and S10 identifiers) generated by each designated operator using desktop encoders. The memory bank capacity may differ depending on the application of the transponders.	Up to 440,000 units for the first year

<i>Transponder type</i>	<i>Application</i>	<i>Objective</i>	<i>Quantity</i>
Single-use blank passive UHF RFID transponders embedded in 130 x 90 labels (160 bits)	Identification of receptacle contents	RFID printer consumables, to be printed and encoded on site using RFID printers. This label size corresponds to a standard format that designated operators use in their daily operations to identify receptacles. It is mandatory to identify receptacles using a specific label that includes various information on the shipment and a barcode identifier. Designated operators can obtain access to local printers with the capacity to read the barcode and encode the barcode information in a passive transponder embedded in the label.	Up to 240,000 units for the first year
Reusable passive UHF RFID transponders (96 bits)	Identification of postal assets and mailbags	To be encoded on site. Reusable transponders may be used to identify an asset or the content thereof. In the case of asset identification, the transponder ID will be changed only if the asset is changed or damaged. In the case of identification of the content of an asset (also referred to as a "receptacle"), the transponder ID shall be changed every time that the asset is used. There may be two transponders of this type in use at same time; in such cases, it must be possible to differentiate one from the other.	Up to 1,000 units for the first year
Printing and encoding of transponders	Identification of postal items and mailbags	Encoding of transponders by the Vendor with a serial number created by the UPU, to be printed in batches on request. The inlay is printed with a barcode and corporate graphics to identify the transponders.	Up to 80,000 units for the first year
Printing of test letters	Creation of test letters	Printing of test items that are posted and received by panellists in accordance with a quality measurement design to evaluate specific links. The test letters are captured by RFID readers and the data is used for independent quality measurement.	Up to 100,000 units for the first year

Bidders must provide a technical solution for the procurement of the required items and services, taking due account of any applicable best practices and regulations. Passive UHF RFID transponders must provide the maximum quality and performance achievable by the technology currently available on the market. Bidders may also include in their proposed solution any other products or services aimed at leveraging their tender.

If so required by the UPU, a visit to the Bidders' premises shall be arranged, in order to evaluate the manufacturing processes or logistic structure and to meet the proposed project team, at no cost to the UPU.

4.2 Technical specifications

4.2.1 Single-use blank passive UHF RFID transponders

Single-use blank passive UHF RFID transponders consist of a chip embedded in an inlay. The EPC memory bank is virgin, enabling encoding as required.

Three different types of transponder shall be offered, based on their dimensions and EPC memory bank capacity:

- Blank transponders with minimum 96 bits EPC memory bank capacity;
- Blank transponders with minimum 160 bits EPC memory bank capacity;
- Blank transponders with minimum 160 bits EPC memory bank capacity, embedded in a 130×190 label.

The UPU wishes to provide affordable single-use passive transponders to its member countries and their designated operators, for use in tracking and identifying postal items, receptacles and assets across a global RFID network comprising more than 100 countries.

As the transponders will be used in postal operations, the following elements are crucial:

- Competitive cost of tags in order to lower barriers to adoption;
- Optimal tag performance to ensure good read rates in diversified scenarios;
- Tags manufactured using sustainable materials and processes, insofar as reasonably possible.

Technical requirements

The following specifications shall apply to all blank passive UHF RFID transponders provided under this call for tenders:

- In compliance with ISO/IEC 18000-63 international requirements (EPC Gen2 and RAIN are also equivalent), capable of operating in the UHF band (between 860 and 960 MHz);
 - Chip manufacturer: not specified. Bidders should propose their most effective setting in pursuit of the best quality-cost ratio. The Monza Dogbone R6 model may be used as a baseline in terms of performance;
 - Antenna dimensions: not specified. Bidders should propose their most effective setting in pursuit of the best quality-cost ratio. The Monza Dogbone R6 model may be used as a baseline in terms of performance;
- Reserved memory (MB 00): should be set at default value (zero);
- Unique item identifier memory (MB 01): should not be locked, so that tags can be encoded by the Vendor when printing and encoding services are required;
- Tag identification (MB 10): unique tag identifier that cannot be changed or erased, to be encoded by the manufacturer. This ID identifies the tag itself, rather than the item to which it is affixed. There are no specific requirements for the identifier or serialization;
- User memory (MB 11): usage will depend on the use case. Bidders should offer tags with the greatest available memory capacity and specify the MB 11 capacity on the tag datasheet.

In addition to the above requirements, the following capacity requirements shall apply to the various types of blank transponder:

- Blank transponders with 96-bits EPC memory bank capacity:
 - The number of words/capacity of the part of MB 01 concerning the unique item identifier (EPC item ID) shall be at least **96 bits**, in order to accommodate an alphanumeric identifier of 15 to 17 characters converted to hexadecimal format via two different encoding methods, resulting in either 80 or 96 bits. In addition, the protocol control word should be editable;
 - Die-cut dimensions (label size): not specified. Bidders shall propose their most effective setting in pursuit of the best quality-cost ratio;
 - Surface for use: paper, card, nylon fabrics or plasticized surfaces.
- Blank transponders with 160-bits EPC memory bank capacity:
 - The number of words/capacity of the part of MB 01 concerning the unique item identifier (EPC item ID) shall be at least **160 bits**, in order to accommodate an alphanumeric identifier of 31 characters converted to hexadecimal format via URN Code 40 encoding, resulting in either 144 or 160 bits. In addition, the protocol control word should be editable;

- Die-cut dimensions (label size): not specified. Bidders shall propose their most effective setting in pursuit of the best quality-cost ratio;
 - Surface for use: paper, card, nylon fabrics or plasticized surfaces.
- Blank transponders with 160-bits EPC memory bank capacity, embedded in a 130 x 190 label:
- The number of words/capacity of the part of MB 01 concerning the unique item identifier (EPC item ID) shall be at least **160 bits**, in order to accommodate an alphanumeric identifier of 31 characters converted to hexadecimal format via URN Code 40 encoding, resulting in either 144 or 160 bits. In addition, the protocol control word should be editable;
 - Die-cut dimensions (label size): 130 x 90 mm;
 - Thickness: minimum 0.058 mm, maximum 0.25 mm;
 - Roll size: maximum 203 mm outer diameter and minimum 76 mm inner diameter;
 - Surface for use: paper or card.

4.2.2 Reusable passive UHF RFID transponders

There are no specific requirements as to the format of reusable transponders. Bidders may suggest the use of PVC cards or any other technical solution that has proved appropriate in logistical environments.

Reusable transponders must have at least three holes to be affixed to the final surface. They shall be serigraph printed in a single colour with a logo and text to be defined with each purchase order.

Technical requirements

The following specifications shall apply for all reusable passive UHF RFID transponders:

- In compliance with ISO/IEC 18000-63 international requirements (EPC Gen 2 and RAIN are also equivalent), capable of operating in the UHF band (between 860 and 960 MHz);
- Chip manufacturer: not specified. Bidders should propose their most effective setting in pursuit of the best quality-cost ratio. The Monza Dogbone R6 model may be used as a baseline in terms of performance;
- Antenna dimensions: not specified. Bidders should propose their most effective setting in pursuit of the best quality-cost ratio. The Monza Dogbone R6 model may be used as a baseline in terms of performance;
- Reserved memory (MB 00): should be set at default value (zero);
- Unique item identifier memory (MB 01): should not be locked, so that tags can be encoded by the Vendor when printing and encoding services are required. The number of words/capacity of the part of MB 01 concerning the unique item identifier (EPC item ID) shall be at least 96 bits, in order to accommodate an alphanumeric identifier of 15 to 17 characters converted to hexadecimal format via two different encoding methods, resulting in either 80 or 96 bits. In addition, the protocol control word should be editable;
- Tag identification (MB 10): unique tag identifier that cannot be changed or erased, to be encoded by the manufacturer. This ID identifies the tag itself, rather than the item to which it is affixed. There are no specific requirements for the identifier or serialization;
- User memory (MB 11): usage will depend on the use case. Bidders should offer tags with the greatest available memory capacity and specify the MB 11 capacity on the datasheet.

4.2.3 Printing and encoding of transponders on demand

Upon request, the Vendor shall provide printed and encoded transponders, using the passive UHF RFID transponders specified in section 4.2.1 (Single-use blank passive UHF RFID transponders).

With regard to printing, the inlay may differ for each end application, but will always contain the following elements, which will be provided with the purchase order:

- Item ID in numbers;
- Item ID in barcode;
- Logo.

When printing and encoding, blank transponders with 96-bits EPC memory bank capacity are to be used. The UPU may issue a single order for tags and printing services, or two separate orders. In the latter case, the UPU may issue an initial order for blank transponders that the Vendor shall keep in stock to be used for future printing orders. In such cases, the UPU shall always have access to those units in stock, and this stock may not be used to supply other customers.

With regard to encoding, the UPU will provide the following information when placing the order:

- MB 00 value;
- MB 01 value: a list of alphanumeric codes will be provided and the encoding method specified. The Vendor shall convert the codes to hexadecimal format via the specified encoding method, so that the EPC item ID is read by the interrogators (RFID readers) in hexadecimal format. The protocol control word will be specified on a case-by-case basis;
- Whether or not MB 11 is required and, if so, its value.

4.2.4 Printing of test letters on demand

Upon request, the Vendor shall provide test letters to be used for quality measurement. Test letters consist of a blank envelope containing a card to which a transponder is affixed.

The specifications for the card are as follows:

- Size: 210 × 75 mm;
- Paper weight: 80 gsm;
- Printing: black and white, one side;
- Colour and finishing: not specified.

A passive UHF RFID transponder should be affixed to the card, having been purchased, printed and encoded as specified in section 4.2.3 (Printing and encoding of transponders on demand).

The envelopes must comply with the following requirements:

- Size: standard dimension closest to the card size;
- Paper weight: sufficient to provide 100% opacity;
- Printing: plain, not printed;
- Colour and finishing: not specified;
- Windowless: it should not be possible to view any of the contents of the envelope.

4.3 Production and stock management

In order to monitor and manage production processes, and to adjust delivery schedules as needed, the Vendor shall provide a management tool or protocol containing all relevant information for production control and inventory purposes. In addition, meetings shall be held on request between the Vendor's production/project manager and the UPU's production manager.

4.4 Warranties and product life time

Bidders shall provide the following information relating to warranties and proposed products:

- Duration and conditions of warranties, such as replacement policies for faulty units;
- Product life times.

4.5 *Quality control*

Bidders shall describe the procedure that will be implemented to control production quality (where applicable) to ensure that the products provided meet the functional requirements.

If required by the UPU, Bidders shall provide reports as evidence of activities implemented as part of their quality control process.

4.6 *Delivery of equipment*

The Vendor shall be solely responsible for delivering all items in good condition to the various destination countries (to be defined by the UPU), under the following conditions:

- The Vendor shall be responsible for the packaging (in accordance with international requirements) of all equipment to ensure the safety of the content;
- The Vendor shall make the goods available at its premises until shipment;
- The Vendor shall be responsible for replacing any items damaged during shipment;
- The Vendor shall inform the UPU of the shipment options, respective transit times and costs;
- The Vendor shall ship the goods according to the shipment option selected by the UPU;
- The Vendor shall be responsible for completing all export and customs documentation, in compliance with Incoterms DDP (Delivered Duty Paid);
- Shipment tracking information shall be sent to the project team once it is available.

Shipments are subject to the prior written consent of the UPU. Reimbursement of any unavoidable costs shall be subject to the presentation, by the Vendor to the UPU, of any and all documents constituting proof of such costs.

The Vendor is requested to provide information on delivery lead times (i.e. the time from receipt of the purchase order to equipment being packed and ready for shipment).

The Vendor shall inform the UPU immediately in the event of any incident affecting the lead time.

4.7 *Bidder demonstrations*

Prior to award of the contract, shortlisted bidders may be required to demonstrate their respective solutions to the selection committee at no additional cost to the UPU.

Each invited Bidder may be requested to demonstrate its technical solution in a real postal operational scenario. Details concerning the demonstration shall be provided by the UPU at a later stage. The time assigned to each Bidder shall be communicated 20 working days in advance of the demonstration to allow for set-up.

4.8 *Bidder requirements*

Bidders are expected to have the necessary knowledge and expertise in the following areas:

- Good understanding of logistics and the postal sector;
- Good understanding of market trends and available solutions with regard to RFID identifiers;
- Good understanding of existing regulations applicable to operations using UHF RFID equipment;
- Thorough understanding of logistics and customs processes;
- Thorough understanding of encoding methods;
- Experience and qualifications in the field of RFID;
- Experience of providing worldwide products and services.

Bidders shall demonstrate a record of satisfactory performance in similar activities (i.e. reference letters and/or work completion certificates). The business transactions and activities carried out by the Bidder must be compliant with the mandates and principles of the UPU.

4.9 Assessment criteria

Bidders will be assessed on the basis of a scoring system of up to 60 points for their technical proposal and 40 points for their pricing structure.

The technical proposal shall be assessed on the basis of the following criteria:

<i>Criteria</i>	<i>Points obtainable</i>
Pricing structure	40
<i>Technical proposal</i>	
Bidder's reputation, experience and qualifications	10
Functionality, reliability and sustainability of the proposed products	30
Warranties and logistics, including lead times	20
Total	100

Bidders shall provide evidence of their ability to meet these requirements by means of a list of references.

4.10 Duration of services

The services are scheduled to commence in January 2025 for a total contract term of four years.

The following milestones are expected. Bidders should confirm their ability to meet this schedule, or provide comments and propose amendments (i.e. changes or new milestones) to the proposed schedule:

<i>Milestone</i>	<i>Timeline</i>	<i>Comments</i>
Start of engagement and issuing of first purchase orders	January 2025	
Provision to the UPU of access to management tools or implementation of protocols	January 2025	
Delivery of goods according to defined lead time	February 2025 to January 2029	

4.11 Additional information

Bidders may include any additional information that they deem necessary or relevant in order for the UPU to gain a clear and detailed understanding of the services being offered.